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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/586,089	07/13/2006	**Willem J. Quadakkers**	23660	1161

535 7590 06/04/2009

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EXAMINER	
FOGARTY, CAITLIN ANNE	
ART UNIT	**PAPER NUMBER**
1793	

MAIL DATE	DELIVERY MODE
06/04/2009	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/586,089	QUADAKKERS, WILLEM J.	
	Examiner	Art Unit	
	CAITLIN FOGARTY	1793	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *18 May 2009*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1,2,4 and 6-10* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,2,4 and 6-10* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Response to Amendment

1. Applicant's request for reconsideration of the finality of the rejection of the last Office action is persuasive and, therefore, the finality of that action is withdrawn.

Priority

2. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Status of Claims

3. Claims 1, 2, 4, and 6 – 10 are pending where none of the claims have been amended. Claims 3 and 5 have been cancelled.

Status of Previous Rejections

4. The 35 U.S.C. 103(a) rejection of claims 1, 2, 4, 6, and 10 as being unpatentable over Alger (US 6,599,636) has been withdrawn in view of the arguments filed May 18, 2009.

The 35 U.S.C. 103(a) rejection of claims 7 – 9 as being unpatentable over Alger (US 6,599,636) in view of the *ASM Handbook* has been withdrawn in view of the arguments filed May 18, 2009.

Claim Objections

5. Claims 7 – 9 are objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form. Claims 7 – 9

recite a method that has completely different steps that then method of independent claim 1.

6. Claim 10 is objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form. Claim 10 recites a temperature range of below 800°C whereas claim 1 (independent claim) recited a temperature range of above 800°C.

Claim Rejections - 35 USC § 103

7. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

8. Claims 1, 2, 4, and 6 – 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gugel (US 5,741,372).

With respect to instant claim 1, col. 6 lines 21-29, col. 6 line 62-col. 8 line 20 of Gugel disclose a method for preparing a protective layer for metals and alloys including Al alloys and Al-containing alloys. The method comprises depositing a water soluble compound such as Cr or Ti on the surface of the alloy in an oxygen-containing atmosphere (steam) to form on the alloy an oxide layer having non-aluminum-containing oxides. The alloy is heated to temperatures of 200°C to below the melting point of the base metal which overlaps with the range recited in instant claim 1. Gugel differs from instant claim 1 because it does not specifically teach the reason for heating the alloy to temperatures above 800°C. However, one of ordinary skill in the art would have

expected the method of Gugel to produce non-aluminum-containing oxides on the surface of the alloy that inhibit the formation of metastable aluminum oxides and substantially only α-Al_2O_3 oxides form since the method of Gugel is very similar to the instant method. Furthermore, the processing temperature is a result effective variable as disclosed in col. 7 lines 56-65. Therefore, it would have been obvious to one of ordinary skill in the art to choose an optimal controlled processing temperature, based on the chemical composition, through routine experimentation in order to obtain the necessary protection or technological properties of the surface layers.

In regards to instant claim 2, Gugel does not specifically teach the thickness of the non-aluminum-containing oxide layer. However, col. 7 lines 28-31 of Gugel disclose that the desired thickness of the non-aluminum-containing oxide layer may be obtained by altering the soaking time of the alloy. Therefore, it would have been obvious to one of ordinary skill in the art to modify the soaking time in order to obtain the desired non-aluminum-containing oxide layer thickness.

Regarding instant claims 4 and 6, col. 6 line 62-col. 8 line 20 of Gugel teach that the deposition is realized by vaporization and condensing since the method takes place in a steam (vapor) atmosphere.

With respect to instant claim 10, col. 6 line 62-col. 8 line 20 of Gugel disclose that the alloy is heated to temperatures of 200°C to below the melting point of the base metal, which overlaps with the range recited in instant claim 10, whereby a corresponding oxide layer forms at the surface of the aluminum-containing alloy from an alloy metal that is not aluminum. Furthermore, the processing temperature is a result

effective variable as disclosed in col. 7 lines 56-65 of Gugel. Therefore, it would have been obvious to one of ordinary skill in the art to choose an optimal controlled processing temperature, based on the chemical composition, through routine experimentation in order to obtain the necessary protection or technological properties of the surface layers.

9. Claims 7 – 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gugel (US 5,741,372) as applied to claim 1 above, and further in view of the *ASM Handbook*.

Gugel is applied to instant claim 1 as discussed in the rejection above.

Gugel differs from instant claim 7 because it does not teach that the non-aluminum-containing oxide layer is formed when an aluminum-containing alloy is introduced into a chloride- and/or fluoride-containing medium. However, it is well known in the art as evidenced in p. 394 of Volume 13 of the 1992 9th Edition *ASM Handbook* that a non-aluminum containing oxide layer may be formed when an aluminum alloy is immersed in a bath containing fluoride. Therefore, it would have been obvious to one of ordinary skill in the art that the method disclosed in the *ASM Handbook* would be an alternative method of forming a non-aluminum containing oxide layer on an aluminum alloy in order to form a protective layer.

Gugel differs from instant claim 8 because it does not teach that the aluminum-containing alloy is introduced into the medium over a period of 1 minute to 5 hours. However, p. 394 of Volume 13 of the 1992 9th Edition *ASM Handbook* teaches that the

aluminum alloy is introduced into the bath over a period of 1 to 3 minutes which is within the range recited in instant claim 8.

Gugel differs from instant claim 9 because it does not disclose that the aluminum-containing component is introduced into the medium at temperatures between 30 and 100°C. However, p. 394 of Volume 13 of the 1992 9th Edition *ASM Handbook* teaches that the aluminum alloy is introduced into the bath at temperatures between 25 and 60°C which overlaps with the range recited in instant claim 9.

Response to Arguments

10. Applicant's arguments, see p. 1-4, filed May 18, 2009, with respect to the rejection(s) of claim(s) 1, 2, 4, and 6 – 10 under Alger have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of Gugel.

Conclusion

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to CAITLIN FOGARTY whose telephone number is (571)270-3589. The examiner can normally be reached on Monday - Friday 8:00 AM - 5:30 PM EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Roy King can be reached on (571) 272-1244. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Roy King/
Supervisory Patent Examiner, Art Unit 1793

CF